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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Application of:

Applicants: : Constantine Tsikos et al.  
Serial No. : 09/990,585  
Filing Date : November 21, 2001  
Title of Invention : PLANAR ILLUMINATION AND IMAGING (PLIIM) SYSTEMS  
WITH INTEGRATED DESPECKLING MECHANISMS  
PROVIDED THEREIN  
Examiner : n/a  
Group Art Unit : 2876  
Attorney Docket No. : 108-151USA000

Honorable Commissioner of Patents  
and Trademarks  
Washington, DC 20231

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**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 C.F.R. 1.97**

Sir:

In order to fulfill Applicants' continuing obligation of candor and good faith as set forth in 37 C.F.R. 1.56, Applicants submit herewith an Information Disclosure Statement prepared in accordance with 37 C.F.R Sections 1.97, 1.98 and 1.99.

The disclosures enclosed herewith are as follows:

**U.S. PUBLICATIONS**

<u>NUMBER</u>	<u>FILING DATE</u>	<u>TITLE</u>
6,230,975 B1	October 7, 1999	OPTICAL READER WITH ADAPTIVE EXPOSURE CONTROL
6,223,988 B1	October 14, 1997	HAND-HELD BAR CODE READER WITH LASER SCANNING AND 2D IMAGE CAPTURE
6,191,887 B1	January 7, 2000	LASER ILLUMINATION WITH SPECKLE REDUCTION
6,184,981 B1	March 26, 1999	SPECKLE MITIGATION FOR COHERENT DETECTION EMPLOYING A WIDE BAND SIGNAL
6,159,153	December 31, 1998	METHODS AND SYSTEMS FOR <del>ULTRASOUND</del> SCANNING USING

		SPATIALLY AND SPECTRALLY SEPARATED TRANSMIT ULTRASOUND BEAMS
6,128,049	January 29, 1999	USE OF SHUTTER TO CONTROL THE ILLUMINATION PERIOD IN A FERROELECTRIC LIQUID CRYSTAL- BASED SPATIAL LIGHT MODULATOR DISPLAY DEVICE
6,081,381	October 26, 1998	APPARATUS AND METHOD FOR REDUCING SPATIAL COHERENCE AND FOR IMPROVING UNIFORMITY OF A LIGHT BEAM EMITTED FROM A COHERENT LIGHT SOURCE
Re: 36,528	March 24, 1995	OPTICAL SCANNING HEAD
5,988,506	June 16, 1996	SYSTEM AND METHOD FOR READING AND DECODING TWO DIMENSIONAL CODES OF HIGH DENSITY
5,986,745	March 24, 1997	CO-PLANAR ELECTOMAGNETIC PROFILE SCANNER
5,841,889	December 29, 1995	ULTRASOUND IMAGE TEXTURE CONTROL USING ADAPTIVE SPECKLE CONTROL ALGORITHM
5,825,803	December 14, 1995	MULTIPLE EMITTER LASER DIODE ASSEMBLY WITH GRADED-INDEX FIBER MICROLENS
5,786,582	December 8, 1995	OPTICAL SCANNER FOR READING AND DECODING ONE- AND TWO DIMENSIONAL SYMBOLOGIES AT VARIABLE DEPTHS OF FIELD
5,710,417	June 2, 1995	BAR CODE READER FOR READING BOTH ONE DIMENSIONAL AND TWO DIMENSIONAL SYMBOLOGIES WITH PROGRAMMABLE RESOLUTION
5,672,858	June 30, 1994	APPARATUS AND METHOD FOR READING INDICIA USING CHARGE COUPLED DEVICE AND SCANNING LASER BEAM TECHNOLOGY

5,621,203	June 30, 1994	METHOD AND APPARATUS FOR READING TWO-DIMENSIONAL BAR CODE SYMBOLS WITH AN ELONGATED LASER LINE
5,615,003	November 29, 1994	ELECTROMAGNETIC PROFILE SCANNER
5,545,886	July 29, 1993	BARCODE SCANNER USING AN ARRAY OF LIGHT EMITTING ELEMENTS WHICH ARE SELECTIVELY ACTIVATED
5,532,467	July 2, 1996	OPTICAL SCANNING HEAD
Re. 35,148	January 20, 1995	FREQUENCY DIVERSITY FOR IMAGE ENHANCEMENT
5,378,883	July 19, 1991	OMNIDIRECTIONAL WIDE-RANGE HAND HELD BAR CODE READER
5,319,185	July 24, 1992	SMALL-SIZE HAND-SUPPORTED BAR CODE READER
5,319,181	March 16, 1992	METHOD AND APPARATUS FOR DECODING TWO-DIMENSIONAL BAR CODE USING CCD/CMD CAMERA
5,258,605	April 6, 1992	SCAN GENERATORS FOR BAR CODE READER USING LINEAR ARRAY OF LASERS
5,212,390	May 4, 1992	LEAD INSPECTION METHOD USING A PLANE OF LIGHT FOR PRODUCING REFLECTED LEAD IMAGES
5,192,856	November 19, 1990	AUTO FOCUSING BAR CODE READER
5,136,145	August 28, 1990	SYMBOL READER
4,979,815	February 17, 1989	LASER RANGE IMAGING SYSTEM BASED ON PROJECTIVE GEOMETRY
4,961,195	August 3, 1988	SYSTEMS FOR CONTROLLING THE INTENSITY VARIATIONS IN A LASER BEAM AND FOR FREQUENCY CONVERSION THEREOF
4,900,907	March 18, 1987	OPTICAL INFORMATION READING

		APPARATUS
4,826,299	January 30, 1987	LINEAR DEIVERGING LENS
4,687,325	March 28, 1985	THREE-DIMENSIONAL RANGE CAMERA
3,901,597	September 13, 1973	LASER DISTANCE MEASURING DEVICE

### FOREIGN PUBLICATIONS

<u>NUMBER</u>	<u>PUBLICATION DATE</u>	<u>TITLE</u>
WO 01/71419 A2	September 27, 2001	LARGE DEPTH OF FIELD LINE SCAN CAMERA
WO 01/72028 A1	September 27, 2001	COPLANAR CAMERA SCANNING SYSTEM
WO 00/65401	November 2, 2000	MECHANICALLY OSCILLATED PROJECTION DISPLAY
WO 00/62114	October 19, 2000	METHOD AND DEVICE FOR REDUCING THE FORMATION OF SPECKLE ON A PROJECTION SCREEN
WO 00/43822	July 27, 2000	LASER ILLUMINATION WITH SPECKLE REDUCTION
60/190,273	May 29, 2001	COPLANAR CAMERA
WO 99/64980	December 16, 1999	IMAGING ENGINE AND METHOD FOR CODE READERS
WO 99/64916	December 16, 1999	ILLUMINATION TECHNIQUES FOR OVERCOMING SPECKLE ARTIFACTS IN METROLOGY APPLICATIONS
WO 99/60443	November 25, 1999	LASER PROJECTION APPARATUS WITH LIQUID-CRYSTAL LIGHT VALVES AND SCANNING READING BEAM
WO 99/49787	October 7, 1999	ULTRASONIC CAMERA
WO 99/31531	June 24, 1999	SCATTER NOISE REDUCTION IN

HOLOGRAPHIC STORAGE SYSTEMS BY  
SPECKLE AVERAGING

WO 99/21252

April 29, 1999

FILAMENTED MULTI-WAVELENGTH  
VERTICAL-CAVITY SURFACE  
EMITTING LASER

**TECHNICAL PUBLICATIONS**

Web-based publication entitled "AV3700 Coplanar Illumination Option" by Accu-Sort Systems, Inc., [www.accusort.com/products/coplanar.html](http://www.accusort.com/products/coplanar.html), 1 page.

Web-based Product Brochure on Model 120 LIVAAR Short Wave IR Gated Camera Specification, by Intevac Corporation, Santa Clara CA, September 2001, pages 1-2.

Web-based presentation entitled "NEW LIVAR IMAGERY" by Intevac Corporation, Santa Clara CA, [http://www.intevac.com/livar\\_imagery/livar\\_imagery.html](http://www.intevac.com/livar_imagery/livar_imagery.html), 2001, pages 1-9.

Web-based brochure for Intevac Photonics Division Products- Laser Illuminated Viewing and Ranging (LIVAR) System, Intevac, Inc., <http://www.intevac.com/photonics/products.html>, 2001, pages 1-5.

Web-based publication entitled "Planar Etalon Theory" by TecOptics, [www.tecoptics.com/etalons/theory.htm](http://www.tecoptics.com/etalons/theory.htm), 2001, pages 1-2.

Web-based publication entitled "Introduction: Etalons" by TecOptics, <http://www.tecoptics.com/etalons/index.htm>, 2001, 1 page.

Web-based publication entitled "Types of Planar Etalons" by TecOptics, <http://www.tecoptics.com/etalons/types.htm>, 2001, pages 1-3.

Web-based brochure entitled "High-Speed, Repetitively Pulsed Ruby Laser Light Source" by Physical Sciences Inc., <http://www.psicvorp.com/html/prod/lasillum.htm>, 2001, pages 1-4.

Web-based brochure entitled "Collimated Laser Diode Arrays" by INO, Inc., [http://www.ino.qc.ca/en/syst\\_et\\_compo/clda.asp](http://www.ino.qc.ca/en/syst_et_compo/clda.asp), 2001, pages 1-2.

Product Brochure for the Lasiris<sup>TM</sup> SNF Laser by StockerYale, Salem NH, 2001, pages 1-4.

Academic publication entitled "Nonlinear Electro-Optic Effect and Kerr Shutter" by Jagat Shakya and Mim Lal Nakarmi, Dept. of Physics, Kansas State Univ., April 2001, pages 1-14.

Product Brochure for the AV3700 High Speed CCD Bar Code Reader by Accu-Sort Corporation, 2001, pages 1-2

Chapter 4 entitled "Speckle Reduction" by T.S. McKechnie, Topics in Applied Physics Vol. 9 -

Laser Speckle and Related Phenomena, Editor J.C. Dainty, Springer-Verlag, 1984, pages 123-170.

Product brochure for DALSA IT-PA Image Sensors, by Dalsa, Inc., 2001, pages 1-14.

Web-based brochure for the Optical Shutter by Optron Systems, Inc., <http://members.bellatlantic.net/~optron3/shutter.htm#TypicalApplications>, 2001, pages 1-4.

Product Specification for "KAF-4202 SERIES Full-Frame CCD Image Sensor Performance Specification" by Eastman Kodak Company, Rochester NY, June 29, 2000, pages 1-15.

User Manual for the Piranha CT-P4, CL-P4 High Speed Line Scan Camera by Dalsa, Inc., 2000, pages 1-30.

Scientific publication entitled "Speckle Reduction in Laser Projections with Ultrasonic Waves" by Wang et al., Opt. Eng. 39(6) 1659-1664 June 2000, Vol. 39, No. 6.

Scientific publication entitled "Principles of Parametric Temporal Imaging - Part I: System Configurations" by Bennett et al., IEEE Journal of Quantum Electronics, Vol. 36, No. 4, April, 2000, Vol. 36, No. 4, pages 430-437.

Product brochure for Sony ICX085AL 2/3-inch Progressive Scan CCD Image Sensor with Square Pixel for B/W Cameras, by Sony Corporation, 2000, pages 1-20.

Web-based slide show entitled "Speckle Noise and Laser Scanning Systems" by Kresic-Juric et al., [www.ima.umn.edu/industrial/99-2000/kresic/sld001.htm](http://www.ima.umn.edu/industrial/99-2000/kresic/sld001.htm), 2000, pages 1-25.

Product brochure for "ML1XX6 Series for Optical Information Systems" by Mitsubishi Electric, December 1999, pages 1-4.

NEC Press Release entitled "NEC Develops Highly Stable, Ultra-short Pulse Semiconductor Laser for Ultra-high Capacity Optical Communications" by NEC Corporation, January 11, 1999, pages 1-3.

Scientific publication entitled "High-speed visualization, a powerful diagnostic tool for microactuators - retrospect and prospect" by Krehl et al., Microsystem Technologie 5, Springer-Verlag 1999, pages 113-132.

Web-based publication entitled "3-D Sensing" by Papadoupoulos, <http://perso.club-internet.fr/dpo/numeerisation3d>, 1995, pages 1-12.

Scientific publication entitled "Laser triangulation: fundamental uncertainty in distance measurement" by Dorsch et al., Applied Optics, Vol. 33(7), March 1994, pages 442-450.

Scientific publication entitled "The Use of Diode Laser Collimators for Targeting 3-D Objects" by Clarke et al., Dept. Engineering/City Univ./London, 1994, pages 47-54.

Scientific publication entitled "Speckle Reduction by Virtual Spatial Coherence" by Freischlad et al., SPIE Vol. 1755 Interferometry: Techniques and Analysis (1992), pages 38-43.